

GIANT MAGNETORESISTANCE IN DIFFERENT
MAGNETIC STATES OF FERROMAGNETIC
NANOPARTICLE SYSTEMS

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S u m m a r y

The decomposed solid solutions of Cu–Ni–Fe and Cu–Mn–Al alloy systems have been investigated in order to determine the magnetoresistance in different magnetic states formed in a system of magnetic nanosized particles. Three collective magnetic states, namely, superparamagnetic, superferromagnetic, and superspin glass ones have been identified by magnetic susceptibility measurements. The temperature and field dependences of the magnetoresistance demonstrate peculiarities related to each magnetic state.